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On the contrary, considerations drawn from physical geography, and especially the deep sea soundings made by the "Challenger," seem to go against the view of intercontinental bridges held by some naturalists. We look for a solution of the resemblance of the tertiary fauna of Europe and north temperate America, to a study of the tertiary lands of Arctic America, Greenland and Spitzbergen, from which the European forms of an American type may have emigrated in preglacial times.

ANTHROPOLOGY.

The Pygmies of Central Africa.—Dr. Schweinfurth has studied and drawn the Akka or pygmy race of Central Africa, whose average height is four feet six inches. The statements of Herodotus and Aristotle are thus fully confirmed.

MICROSCOPY.

Amphipleura pellucida in dots.—A $\frac{1}{50}$ objective was made by Tolles to my order, and finished on the 12th of March, 1873. The angle of aperture as invoiced by Mr. Stodder is 165°. From my measurements I think the objective is correctly named by the maker. At the extreme open point it is a good $\frac{1}{40}$th dry. The screw-collar has twelve divisions: by turning it eight divisions it is adjusted for uncovered wet, and four divisions remain to adjust for cover for immersion work. It works through covering glass of about $\frac{1}{200}$th of an inch, but it is better to use thinner glass, or mica, to enable the observer to focus through specimens.

With lamp-light and the $\frac{1}{50}$th the resolution of *Amphipleura pellucida* is better than I have before seen. Using ordinary daylight, Vibriones, Bacteria, etc., are well defined, especially when a Kelner eye-piece is used as a condenser.

With sunlight and the ammonia-sulphate of copper cell, *Surirella gemma* yields longitudinal striæ, and, as the direction of the light is changed, rows of "hemispherical bosses" as described by Dr. Woodward.

With the same illumination specimens of *Amphipleura pellucida*, mounted dry, by Norman, were resolved and counted with perfect ease and remarkable plainness, the striæ being still distinctly visible with No. 3, eye-piece, draw-tube extended six inches, and power upward of 10,000 times.

It is with hesitation that I remark further that the $\frac{1}{50}$th has resolved the lines of *Amphipleura pellucida* into rows of dots, for the "beaded" structure of the easier test, *Surirella gemma*, is still doubted by some experienced microscopists. But "facts are stubborn things" and the facts are that with Wenham's parabola as an illuminator the dots are seen, and with either the paraboloid or the Amici prism longitudinal lines much finer than the transverse ones are brought out. These lines, which I consider genuine, count not far from 120,000 to the inch. With a slight change of the adjustment their place is occupied by spurious lines counting generally about 60,000 to the inch. The longitudinal lines can only be seen when the focus is best adjusted for the transverse striæ. When the transverse lines are examined, they may be shown smooth and shining, similar to the photograph by Dr. Woodward in the NATURALIST, but much better. If the mirror is then carefully touched a sinuate appearance of the margins of the lines suggestive of beading is seen. This appearance can be brought out readily. And finally after the most painstaking manipulation, and when without doubt the best work is being done, the separated dots or beads appear.—G. W. MOREHOUSE.

ON CIRCULATORY MOVEMENT IN VAUCHERIA.—Prof. Leidy made some remarks on the intra-cellular circulation of plants, as exemplified in the hairs of the mullein, the leaf-cells of Vallisneria, etc. The moving streams of protoplasm he likened to amœboid movements, and expressed the opinion that they were of the same character. In the common alga, Vaucheria, the filaments of which consist of very long cells, comparable to those of Nitella or Chara, he had observed an apparent motion of the cell contents, which is somewhat peculiar and, at least, is not generally mentioned by writers. The wall of the cells is invested on the interior with a layer of tenacious protoplasm, containing the thinner liquid cell contents as usual. The parietal protoplasm is closely paved with green granules, and these appear very slowly but incessantly to change their position in relation with one another. The motion is so slow that it was a question for some time whether it did actually occur, but it appears sufficiently obvious if observed in relation with the lines of a micrometer, and its existence was confirmed by several friends whose attention was directed to it.—*Proceedings Academy of Natural Sciences, Philadelphia.*